

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 747 808 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
15.01.1997 Bulletin 1997/03

(51) Int Cl. G06F 9/318

(43) Date of publication A2:
11.12.1996 Bulletin 1996/50

(21) Application number: 96480073.4

(22) Date of filing: 31.05.1996

(84) Designated Contracting States:
DE FR GB

- Mahin, Stephen W.
Underhill, Vermont 05489 (US)
- Bergkvist, John J.
Williston, Vermont 05495 (US)

(30) Priority: 07.06.1995 US 480105

(71) Applicant: International Business Machines Corporation
Armonk, N.Y. 10504 (US)

(74) Representative: de Pena, Alain
Compagnie IBM France
Département de Propriété Intellectuelle
06610 La Gaude (FR)

(72) Inventors:
• Goetz, John W.
Jericho, Vermont 05465 (US)

(54) Processor capable of supporting two distinct instruction set architectures

(57) A microprocessor which supports two distinct instruction-set architectures. The microprocessor includes a mode control unit which enables extensions and/or limitations to each of the two architectures and controls the architectural context under which the microprocessor operates. The control unit controls memory management unit (MMU) hardware that is designed to allow address translation to take place under the control of a mode bit so that the translation mechanism can be switched from one architecture to another. A single MMU translates addresses of the two distinct architectures under control of the mode bit which is also used to simultaneously inform instruction decode which architecture is being used so that instructions are properly decoded. The MMU is also capable of mapping the address translation of one architecture onto that of the other so that software written for both architectures may be multi-tasked under the control of a single operating system.

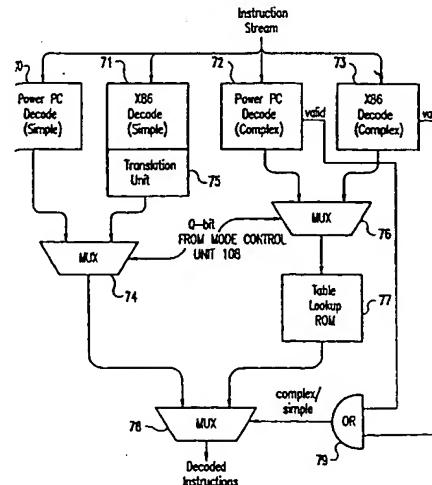


FIG.8

EP 0 747 808 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 48 0073

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
A	EP-A-0 169 565 (NIPPON ELECTRIC CO) 29 January 1986 * the whole document *	1,6,7, 10,13-15	G06F9/318						
A	EP-A-0 272 198 (UNITED TECHNOLOGIES CORP) 22 June 1988 * the whole document *	1,15							
A	EP-A-0 264 215 (AMDAHL CORP) 20 April 1988 * the whole document *	1,2,5, 12,15,16							
			TECHNICAL FIELDS SEARCHED (Int.Cl.)						
			G06F						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>14 November 1996</td> <td>Klocke, L</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	14 November 1996	Klocke, L
Place of search	Date of completion of the search	Examiner							
THE HAGUE	14 November 1996	Klocke, L							
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document							
<small>EPO FORM 160/02 (1992)</small>									